

The quizCGI System

Interactive Testing Over the Internet

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The quizCGI testing engine¹ is a Perl script that works with an HTTP server such as WebStar™ to respond to submissions from students over the network. Instructors use the MTX question format² to develop quizzes and examinations for use with quizCGI. The entire process is outlined in the illustration below.

THE PROCESS

Step 1: The mtz2html conversion tool (also a Perl script) creates an HTML quiz form (quizdemo.html) and answer key (quizdemo.key) from the original MTX file (quizdemo.mtx). The HTML and key files are then placed in appropriate places on the server.

Step 2: The student accesses the quiz using Netscape or a similar browser. When the form is complete it is submitted to the server, which in turn calls quizCGI to process the data.

Step 3: quizCGI uses the key file to grade the quiz and records the results in a data file (quizdemo.dat) for later statistical analysis. If an optional student list (students.lst) was specified by the instructor, the quiz is "closed" and submissions will only be allowed if the student entered a valid ID code. A log entry is generated every time quizCGI is called (quizcgi.log).

Step 4: quizCGI passes a confirmation HTML page back to the student. Several levels of feedback are available at the instructor's discretion, including links to review materials.

PROGRAM FEATURES

The quizCGI system has several built-in mechanisms to ensure accuracy and security:

- ID codes are used for student authentication.
- Submissions are rejected if the form is incomplete or if too many answers have been selected.
- Submissions are rejected if the answer key or student list are missing or renamed.
- The quiz form and answer key contain a random numeric "stamp" assigned by mtz2html when the files were generated. QuizCGI will reject submissions when these numbers do not match, preventing the use of an out of date key.
- For high stakes testing, the quiz forms can be left on the hard disk of the testing computer(s) so there is no possibility of unauthorized student access via the Web.

References and Acknowledgement

1. About quizCGI... (1996)
Richard Rathe, University of Florida
<http://www.medinfo.ufl.edu/cgi-bin/quizcgi.html>
2. MTX User's Manual (1996)
Richard Rathe, University of Florida
<http://www.med.ufl.edu/medinfo/mtx/docs/>

quizCGI and mtz2html were created using MacPerl by Matthias Neeracher <http://www.iis.ee.ethz.ch/~neeri>

